WHAT IS CLAIMED IS:

1. A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

patterning the semiconductor film to form semiconductor islands;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor islands;

preparing an atmosphere comprising a dopant gas diluted with hydrogen;

converting the atmosphere to a plasma by applying an electrical energy thereto; and

introducing an impurity element in the dopant gas into the semiconductor islands by irradiating a laser light.

2. A method according to claim 1, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

3. A method according to claim 1, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.

4. A method according to claim 1, wherein the impurity element is introduced while heating at a temperature from 300 to 500°C.

5. A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

drawing hydrogen out of the semiconductor film;

patterning the semiconductor film to form semiconductor islands;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor islands;

preparing an atmosphere comprising a dopant gas diluted with hydrogen;

converting the atmosphere to a plasma by applying an electrical energy thereto; and

introducing an impurity element in the dopant gas into the semiconductor islands by irradiating a laser light.

6. A method according to claim 5, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

7. A method according to claim 5, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.

8. A method according to claim 5, wherein the impurity element is introduced while heating at a temperature from 300 to 500°C.

9. A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

patterning the semiconductor film to form semiconductor islands;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor islands;

preparing an atmosphere comprising a dopant gas diluted with hydrogen; and

decomposing the dopant gas by applying an electrical energy while irradiating a laser light to the semiconductor islands.

10. A method according to claim 9, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

11. A method according to claim 9, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.

12. A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

drawing hydrogen out of the semiconductor film;

patterning the semiconductor film to form semiconductor islands;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor islands;

preparing an atmosphere comprising a dopant gas diluted with hydrogen; and

decomposing the dopant gas by applying an electrical energy while irradiating a laser light to the semiconductor islands.

13. A method according to claim 12, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

14. A method according to claim 12, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.

15. A method for manufacturing a semiconductor device having a semiconductor island including at least source and drain regions and a channel region therebetween, and a gate electrode adjacent to the semiconductor island, the comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

patterning the semiconductor film to form the semiconductor island;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor island;

preparing an atmosphere comprising a dopant gas diluted with hydrogen; and

decomposing the dopant gas by applying an electrical energy while irradiating a laser light to the semiconductor island to form the source and drain region.

16. A method according to claim 15, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

17. A method according to claim 15, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.

18. A method for manufacturing a semiconductor device having a semiconductor island including at least source and drain regions and a channel region therebetween, and a gate electrode adjacent to the semiconductor island, the comprising the steps of:

forming a semiconductor film comprising amorphous silicon and hydrogen over a substrate by using silane which is not diluted with hydrogen;

drawing hydrogen out of the semiconductor film;

patterning the semiconductor film to form semiconductor island;

introducing the substrate to a chamber for introducing an impurity element to the semiconductor island;

preparing an atmosphere comprising a dopant gas diluted with hydrogen; and

decomposing the dopant gas by applying an electrical energy while irradiating a laser light to the semiconductor island to form the source and drain regions.

19. A method according to claim 18, wherein the silane is selected from the group consisting of monosilane, disilane and trisilane.

20. A method according to claim 18, wherein the dopant gas is selected from the group consisting of AsH_3, PH_3, BF_3, BCl_3, $B(CH_3)_3$, and B_2H_6.